

REMARKS

Applicant submits this Response in response to the Office Action mailed January 10, 2006 ("Office Action"). Applicant has amended claims 1, 2, 17, 24 and 33. Claims 1-24, 26-28 and 30-38 are pending. No new matter has been added.

In the Office Action, the Examiner has rejected claims 1-4, 6, 14-16, and 33-37 under 35 U.S.C. § 103(a) as being unpatentable over Valencia et al., RFC 2341, Cisco Layer Two Forwarding (Protocol) "L2F", May 1998 (the "L2F Reference"), in view of U.S. Patent No. 5,988,497 to Wallace ("Wallace"). The Examiner has also rejected claims 5, 7-13 and 17-32 under 35 U.S.C. § 103(a) as unpatentable over the L2F Reference, Wallace, and further in view of U.S. Patent No. 5,880,446 to Mori et al. ("Mori"). Applicant traverses these rejections, as further discussed below.¹

As an initial matter, the Examiner noted in the Office Action (§ 7) that the "recitation of modifying layer 2 header information . . . has not been given patentable weight because the recitation occurs in the preamble." (Office Action, p. 8.) Without agreeing (or disagreeing) with the Examiner's assertion with respect to the patentable weight to be accorded the preambles of the present claims, Applicant has amended claims 1, 17, 24 and 33 to clarify that the "unique bit string" recited by the claims is located in the layer 2 header of a packet.

The L2F Reference cited by the Examiner describes "the Layer Two Forwarding protocol (L2F) which permits the tunneling of the link layer (i.e. HDLC, async HDLC, or SLIP frames) of higher level protocols." (L2F Reference, pg. 1.) This tunneling is described as being performed by encapsulating an SLIP or PPP packet:

The PPP packets may be encapsulated within L2F. The packet encapsulated is the packet as it would be transmitted over a physical link.

¹ As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such in the future.

....

SLIP is encapsulated within L2F in much the same way as PPP.

(L2F Reference, pg. 10.)

The L2F protocol tunnel may be established over any media that supports “packet oriented point-to-point connectivity,” examples including UDP. (L2F Reference, pg. 6.) The effect of the L2F protocol is permit a user to access a “home gateway” using existing PPP and SLIP connections supported by the home gateway. (L2F Reference, p. 6-7.)

However, absent from the L2F Reference (among other things) is any discussion of processing any packets in which layer 2 header information has been replaced with a unique bit string. At best, the L2F Reference describes encapsulating a layer 2 (e.g., PPP and SLIP) packet within a L2F packet – not replacing any information in the layer 2 packet with a unique bit string. In fact, the L2F Reference notes that such replacement is not desirable, as the intent is to use the existing connectivity mechanisms of the home gateway:

At this point, the connectivity is a point-to-point PPP or SLIP connection whose endpoints are the remote user’s networking application on one end and the termination of this connectivity into the Home Gateway’s SLIP or PPP support on the other. Because the remote user has become simply another dial-up client of the Home Gateway access server, client connectivity can now be managed using traditional mechanisms with respect to further authorization, protocol access, and filtering. (L2F Reference, p. 7.)

Likewise, the L2F Reference provides no description of using any part of such a unique bit string to determine an ingress location of the network from which a packet originated.

As has been noted in Applicant’s earlier submissions, Wallace describes a “validation method that uses variable personal identification numbers (PINs)” in the context of card transactions (e.g., credit cards). (Wallace, col. 1, lines 43-44.) “In the first tier of the validation process, the system validates the proposed credit transaction based upon a static sequence of PINs.

Specifically, after receiving a PIN from a user, the system determines whether the received PIN matches a predefined PIN stored in a database. If no match is identified, an invalidation result can be returned. If a match is identified, the system determines whether the credit transaction

requires a second tier of validation.” (Wallace, col. 1, line 63 to col. 2, line 3.) In the second validation tier, a variable PIN generated by a user-held device is provided by the user, and this variable PIN is compared to a variable PIN synchronously generated at a validation site. If the variable PINs match, the transaction is authenticated. (Wallace, col. 2, lines 22-28.) Absent from the method described in Wallace is any discussion of packets entering a network, much less any discussion of layer 2 information in such packets or unique bit strings which have replaced any layer 2 information in such packets. Likewise, Wallace provides no description of using any part of the unique bit string to determine an ingress location of the network from which a packet originated.

Mori describes an “electronic transaction process” in which an “electronic transaction procedure” is transmitted to each party to the transaction, and each party uses the procedure to perform certain steps related to an electronic transaction. (Mori, col. 2, lines 15-47.) As one example of the execution of a procedure, Mori described the sending of a message from a buyer for an “order input process.” The message is described as including: “information about a buyer containing a name, address, telephone number, mail address and IP address, delivery address information (a name, address, telephone number, mail address and IP address) for the case where the address for delivery is different from that of the buyer . . . and signed in a digital form by the buyer. . . .” (Mori, col. 14, lines 13-40.) Absent from the description provided in Mori is any discussion of packets, layer 2 information, unique bit strings which have replaced any layer 2 information in such packets, or using a unique bit string for authentication or tracking activities.

Independent Claims 1 and 33 and their Dependencies:

In contrast to the description provided in the L2F Reference, Wallace and Mori, claim 1 recites a method that includes:

- receiving a packet having at least a part of layer 2 header information replaced with a unique bit string;
- examining at least a part of the unique bit string;
- comparing the at least a part of the unique bit string examined with stored information; and
- authenticating the party only if the at least a part of the unique bit string examined matches the stored information.

Claim 33 likewise recites an apparatus comprising:

- a) an input for accepting an authentication request, the authentication request including a packet having at least a part of a layer 2 header information replaced with a unique bit string;
- b) storage means for storing authentication information;
- c) means for examining at least a part of the unique bit string;
- d) a comparison facility for comparing the at least a part of the unique bit string examined with the stored authentication information; and
- e) means for authenticating a party to a transaction only if the at least a part of the unique bit string examined matches the stored authentication information.

As noted above, none of the references relied upon by the Examiner teach or suggest all elements of the method of claim 1, or the apparatus of claim 33, either taken individually or in combination. For example, there is no description in the L2F Reference, Wallace or Mori of packets that have at least a part of layer 2 header information replaced with a unique bit string, as recited in claims 1 and 33. The absence of at least this portion of claims 1 and 33 from the prior art indicates that claims 1 and 33 are patentable over the L2F Reference, Wallace and/or Mori.

Since the L2F Reference, Wallace and/or Mori do not teach or suggest all of the elements of claims 1 and 33, these claims are patentable over these references, and Applicant respectfully requests that the Examiner withdraw the rejections of claims 1 and 33. As claims 2-16 depend from claim 1, and therefore include all of the elements of claim 1, claims 2-16 are patentable over these references for at least the same reasons as claim 1,² and Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 2-16 as well. As claims 34-36 depend from claim 33, and therefore include all of the elements of claim 33, claims 34-36 are patentable over these reference for at least the same reasons as claim 33, and Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 34-36 as well.

Independent Claim 17 and its Dependencies:

Claim 17 recites a "method for tracking a network ingress location at which a packet associated with a transaction originated," where the method includes:

² As Applicant's remarks with respect to the base independent claims are sufficient to overcome the Examiner's rejections of all claims dependent therefrom, Applicant's silence as to the Examiner's assertions with respect to dependent claims is not a concession by Applicant to the Examiner's assertions as to these claims, and Applicant reserves the right to analyze and dispute such assertions in the future.

receiving the packet, the packet having at least a part of layer 2 header information replaced with a unique bit string;
examining at least a part of the unique bit string; and
determining the network ingress location from the at least a part of the unique bit string.

As noted above in discussing the references, none of the references relied upon by the Examiner teach or suggest the method of claim 17, either taken individually or in combination. For example, there is no description in the L2F Reference, Wallace or Mori of packets entering a network that have at least a part of layer 2 header information replaced with a unique bit string, as recited in claim 17. As was the case for claim 1, the absence of at least this portion of claim 17 from the prior art indicates that claim 17 is patentable over the L2F Reference, Wallace and/or Mori. Applicant respectfully requests that the Examiner withdraw the rejection of claim 17. As claims 18-23 depend from claim 17, and therefore include all of the elements of claim 17, claims 18-23 are patentable over these reference for at least the same reasons as claim 17, and Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 18-23 as well.

Independent Claims 24 and 28 and their Dependencies:

Claim 24 of the present application recites a method comprising:

receiving a packet having at least a part of layer 2 header information replaced with a unique bit string;
examining at least a part of the unique bit string;
comparing the at least a part of the unique bit string examined with stored information; and
approving a transaction only if the at least a part of the unique bit string examined matches the stored information,
wherein the unique bit string uniquely identifies the party and an ingress location of the network, and no information in addition to the unique bit string is needed for authenticating the party to the transaction.

Likewise, claim 28 of the present application recites a method that includes:

- a) applying a unique bit string to layer 2 header information of packets entering the network, the unique bit string uniquely identifying the party and an ingress location of the network;
- b) examining at least a part of the unique bit string;
- c) comparing the at least a part of the unique bit string examined with stored information; and

d) approving a transaction only if the at least a part of the unique bit string examined matches the stored information.

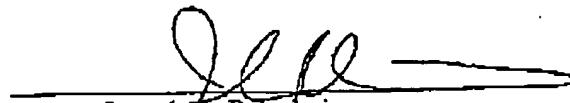
None of the L2F Reference, Wallace and/or Mori references teach or suggest all of the elements of claims 24 and 28. For example, none of these references describe a unique bit string applied to layer 2 header information of packets that uniquely identifies a party and an ingress location of the network, as recited in claims 24 and 28. The absence of at least these portions of claims 24 and 28 from the prior art cited by the Examiner indicates that the rejection of these claims under § 103 cannot be sustained. Applicant respectfully requests that the Examiner withdraw the rejections of claims 24 and 28. Since claims 26 and 27 depend from claim 24, and therefore include all of the elements of claim 24, claims 26 and 27 are patentable over these references for at least the same reasons as claim 24, and Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 26 27 as well. As claims 30-32 depend from claim 28, and therefore include all of the elements of claim 28, claims 30-32 are patentable over these references for at least the same reasons as claim 28, and Applicant therefore respectfully requests that the Examiner withdraw the rejections of claims 30-32 as well.

CONCLUSION

In view of the foregoing, Applicant respectfully submits that the pending claims are in condition for allowance. Reconsideration and allowance are respectfully requested. If there are any outstanding issues which need to be resolved to place the application in condition for allowance, the Examiner is invited to contact Applicant's undersigned representative by phone at the number indicated below to discuss such issues. To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged to deposit account number 07-2347. With respect to this application, please charge any other necessary fees and credit any overpayment to that account.

Respectfully submitted,

May 12, 2006


Joseph R. Palmieri
Reg. No. 40,760

Verizon Corporate Services Group Inc.
600 Hidden Ridge Drive
Mail Code: HQE03H14
Irving, Texas 75038
(972) 718-4800

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being transmitted by facsimile to the United States Patent Office at 571-273-8300.

Dated: June 8, 2006

 (Christian R. Andersen)